THE ALTERNATIVE POWER PUSH

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Story by Andrew Gmerek

The sun is shining in Summit County, which is not unusual as Colorado receives more than 300 days of sunshine a year. A warm breeze blows through the aspen and pine, causing the leaves to dance on their branches. Intruding on this pristine picture is the sound of a backhoe digging a new foundation for the new power station being built to supply energy to new homes in the High Country.

There is an alternative.

By harnessing the power of the sun and the wind, it may someday be possible for those living and moving here to stop the proliferation of fuel-burning power plants, or at the very least, cut down on the amount of pollution that is a byproduct of powering televisions, radios and washing machines.

As pollution caused by energy consumption continues to be a growing concern here in Summit County, businesses and developers are becoming more eco-aware. Big Horn materials in Silverthorne is one such business working hard to be environmentally friendly. "Creating an environmentally friendly building is an interest that my wife and I have," said owner Don Sather. "Our building uses photovoltaic (PV) or solar power systems, radiant heat in the floor, which is the best way to conserve energy, and we've installed solar walls. The warehouse uses ambient light so on a sunny day, we don't need to turn on lights."

Not only is the Big Horn Materials' building green friendly, but the products it sells also are environmentally safe.

"We are in a position to influence the building trade with the products we use and sell, and people are watching us closely to see how everything works," Sather said. "We are hoping that using these environmentally friendly products will pay off in the long run. We think it will."

Getting people to discover and use alternative renewable energy sources is what Shaping Our Summit (SOS), a local community organization that guides growth and development, is trying to do with its pollution-prevention campaign.

SOS, which was founded in 1994 as a division of the Meridian Institute and a Colorado Healthy Communities Initiative, is spreading the word about renewable energy through the use of radio, newspapers, newsletters and online services. It also is working with the middle and high schools to distribute information on renewable energy.

"SOS received a grant through the Colorado Department of Public Health and Environment to do a public information campaign," said Kay Beaton, an environmental engineer and SOS contractor who has lived in Summit County for 10 years. "When we first started with the campaigning we realized it's hard for people to get information on pollution and renewable energy in Summit County. If you live on the Front Range there are all kinds of numbers to call, but up here it's difficult. We've been trying to get the work out about hazardous waste and water and energy conservation. We visited the middle and high schools and had the students to a hazardous waste home inspection. Then we started looking into local businesses and pollution, and we came across Public Service Company's (PSC) Windsource program. It seems that Vail Resorts has been working with the project for some time now, and they get at least some of their energy from wind power."

HARNESSING THE POWER OF THE WIND

Unlike conventional energy sources such as coal, oil and gas, renewable energy sources are inexhaustible, no matter what the demand. It's the search for renewable energy that has led many people to use Windsource. Through the Windsource program, people in Summit County can purchase, for a small additional fee, blocks of power generated by a wind farm in Northern Colorado.

Currently, Vail Resorts has committed to using 225 blocks of wind power a month at its Breckenridge and Keystone Resorts. The 225 blocks of power translates to 22,500 kilowatt hours of wind energy with an additional

cost to the resorts of $500 a month.

"This is a great commitment to renewable energy sources, and an example that we all can follow very inexpensively," Beaton said.

For those switching to wind power for their homes, a block of 100 kilowatt hours will cost an extra $2.50 per month. The average home uses about 600 kilowatt hours of electricity per month, so for $5.00 extra, one third of a household can be run using renewable wind power.

"When we started our information campaign, we found there were a lot of misconceptions about Windsource," Beaton said. "We want to get the correct information to the public.

"Many people in Summit County don't realize we can buy wind generated power here," she continued. "They think because we don't have wind generator in Summit County we can't buy the power, but that's not true. As long as you are tied to the grid, you can purchase wind power."

Another program people in Summit County were supposedly experiencing was a long waiting list to get into the Windsource program.

"Because generating wind power costs PSC more money, they have to regulate the amount they sell," Beaton said. "There have been waiting lists in the past, but it's no longer the case in Summit County. I think it's Eagle County where the waiting list is about a year long, but in Summit County, as of two weeks ago there was no waiting list."

The fact there are waiting lists at all makes Beaton happy.

"It's great," she said. "Even though the program costs consumers a little more money, it's still popular. Using renewable energy sources is the right thing to do for our children, and is probably the best way to help our environment in the long run."

HARNESSING THE POWER OF THE SUN

Altair Energy has strong ties to Summit County and has been working with PSC and federal and state governments to promote the use of PV energy. "It's amazing how many resources can be saved by using alternative energy," said Jessica Gleich, acting marketing director for the company, a solar electric supplier of natural electricity to utilities, governments, private homes and businesses.

Altair Energy installed the PV system at the middle school, which teaches students about the benefits of solar energy.

"I think it's educational for the kids to see how solar energy works," Gleich said. "The systems we're installing in schools are teaching our young people the benefits of renewable energy, and that's important to future generations."

When it comes to convincing people to try alternative energy, knowledge take center stage.

"Education is the key when it comes to getting people to use alternative energy like solar or wind power," Gleich said. "Right now, it's not yet completely cost effective to use solar power, and we don't want to mislead people. However, the benefits of using alternative energy outweigh the extra cost, and for some people who live so far out they can't get power form the utility companies, it can be cheaper than running power lines. The three reasons most people install a solar system are: because it's good for the environment; to use its backup capabilities; or because it's inexpensive compared to running power lines."

Gleich said she has talked with some homeowners that have been quoted up to $100,000 to run power to their homes.

"Depending on the system you're looking at, an off-grid solar power system that can handle the needs of a complete home will run about $20,000," she said. "For those people living too far out for line power we also recommend a solar/generator hybrid system for those bad weather days or when a great deal of power is needed. If a person is looking for a line-tied system to supply 25-30 percent of their household needs, it would cost around $18,000 to install."

One other type of PV system Altair carries is tied to the grid but has backup capabilities. Not only does it supply energy to the home, but when the power goes out, certain appliances and outlets deemed critical stay juiced.

"About 90 percent of the systems we install in the mountains include the backup system," Gleich said. "I had a call from one customer who said she was on the computer helping her

daughter with a paper when the power went our. They had a backup system and the computer and the desk light were plugged in to a critical electric socket. She told us that they didn't even notice the power was out until they looked around the room and saw the other lights out."

Altair works closely with PSC on its Solarsource project, which differs slightly from the Windsource program.

"Solarsource is an unregulated pilot program Altair developed with PSC where the first 200 people who install a line-tied system can sell energy back to the power company in the form of a credit on their electric bill," Gleich said. "We have a man in Boulder who is currently on the program who doesn't have an electric bill because his system produces enough energy to run his meter backward."

Gleich feels the hardest part of getting people to use alternative energy is education them on just how it works and how simple it is to use.

"Solar energy has been used by NASA on satellites for the last 40 years, so this isn't a new technology," Gleich said. "PV systems are also different from those hot water systems that were installed in the '60s you see on so many houses in the area with the panels sitting at an angle to the roof. "Systems today can be mounted flush against the roof, and I think the panels look really cool," she continued. "The panels are thinner and less bulky than those used for the hot water systems, and they can be mounted to an outbuilding with the batteries inside so they don't take up space in the home. However, I think the most important thing is the new systems are as easy to use as being hooked up to a power line."

Altair Energy is also attempting to make installing a PV unit easier.

"In the past, people who wanted a system were confused because they had to buy it in pieces," Gleich said. "They had to get one part from here and another from there. We've made putting in a system easy, because we do everything from discussing the kind of system a homeowner needs to installing the entire thing. We even give the owner instruction on how the system works so there are no questions when a system is installed. The more fear we take out of the process, the more people are willing to try something new."

Altair is also working with a green builder out of Boulder to make PV system a standard option on all new homes.

"By making solarpower a standard option on new houses, the builder has given homeowners the ability to roll the cost into the mortgage," Gleich said. "This makes adding a system to a new home economical and easy to do."